

ROANOKE RIVER BASIN

02072000 SMITH RIVER NEAR PHILPOTT, VA

LOCATION.--Lat 36°46'50", long 80°01'29", NAD83, Franklin County, Hydrologic Unit 03010103, on left bank 900 ft down-stream from Philpott Dam, 1.3 mi southwest of Philpott (corrected), 11.6 mi upstream from Reed Creek, and at mile 44.1.

DRAINAGE AREA.--216 mi².

PERIOD OF RECORD.--August 1946 to current year.

REVISED RECORDS.--WSP 1553: 1953(M), 1955-56(M). WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 804.27 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Oct. 8, 1952, at site 1.9 mi downstream at different datum.

REMARKS.--No estimated daily discharges, records good. Since August 1950, flow regulated by Philpott Lake (station 02071900) 0.2 mi upstream. Statistics of monthly mean data and summary statistics for water years 1947 - 1950 (unregulated flow) are available in previous data books, water years 1991 - 1998. Maximum discharge, 17,000 ft³/s, at site then in use, from rating curve extended above 9,700 ft³/s on basis of slope-area measurements at gage heights 18.2 ft and 20.3 ft. Minimum discharge observed, 2.3 ft³/s, result of repairs at dam, but may have been less during periods of estimated record. Minimum daily discharge, 20 ft³/s, caused by turbines being shut down for repair at Philpott Dam. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	108	110	132	107	113	119	121	206	50	323	65
2	108	108	110	117	106	113	118	120	49	316	317	65
3	109	108	110	139	102	112	120	121	49	323	317	65
4	108	108	109	116	106	113	120	125	101	336	53	66
5	107	108	109	117	107	114	119	124	101	347	53	121
6	109	104	109	109	106	113	119	126	101	320	316	287
7	108	108	109	109	106	111	118	125	101	104	337	286
8	107	118	109	109	106	111	119	117	98	101	326	62
9	108	108	109	109	106	113	118	117	49	105	318	62
10	112	110	109	109	106	112	116	118	49	101	326	207
11	110	109	109	109	105	118	118	119	259	105	53	206
12	107	109	114	108	106	113	119	119	259	105	53	205
13	111	110	109	108	106	114	117	118	257	105	328	197
14	112	111	110	109	105	114	117	117	259	105	328	198
15	112	111	110	108	106	113	118	117	259	105	328	53
16	113	106	110	108	107	113	117	120	49	102	327	53
17	113	110	109	109	106	120	116	118	49	99	328	198
18	112	110	109	108	107	126	118	118	260	100	53	198
19	112	111	109	108	106	119	117	119	260	99	54	198
20	113	110	105	107	105	121	117	117	270	100	329	197
21	113	111	106	103	110	121	117	109	260	100	328	197
22	112	111	116	107	111	120	118	106	260	100	324	53
23	112	111	111	107	110	119	117	103	49	101	323	53
24	113	110	112	106	109	118	116	303	50	101	323	199
25	112	111	111	106	110	118	118	265	262	101	53	197
26	112	111	109	106	110	119	119	689	262	101	53	197
27	107	110	112	107	111	119	121	689	261	101	328	196
28	108	110	112	106	113	119	121	688	260	46	324	196
29	107	111	113	105	---	120	121	109	261	46	323	53
30	107	109	115	106	---	119	123	316	50	322	128	53
31	106	---	131	107	---	118	---	183	---	323	63	---
TOTAL	3408	3290	3435	3414	3001	3606	3551	5956	5060	4570	7437	4383
MEAN	110	110	111	110	107	116	118	192	169	147	240	146
MAX	113	118	131	139	113	126	123	689	270	347	337	287
MIN	106	104	105	103	102	111	116	103	49	46	53	53
(+)	-1690	-771	-348	+308	+494	+4870	+1880	+3280	-338	-1790	-4700	-2170
MEAN‡	.55	.84	100	120	125	273	181	298	157	90	88	74
CFSM‡	.25	.39	.46	.56	.58	1.26	.84	1.38	.73	.42	.41	.34
IN.‡	.29	.43	.53	.64	.60	1.46	.94	1.59	.81	.48	.47	.38

CAL YR 2000 MEAN‡ 141 CFSM‡ .65 IN.‡ 8.89
WTR YR 2001 MEAN‡ 137 CFSM‡ .63 IN.‡ 8.61

† Total change in contents, equivalent in cubic feet per second, per month, in Philpott Lake; provided by U.S. Army Corps of Engineers.

‡ Adjusted for monthly change in contents.

ROANOKE RIVER BASIN

02072000 SMITH RIVER NEAR PHILPOTT, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2001, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	232	223	244	268	264	329	374	303	276	239	255	255
MAX	755	835	586	526	718	946	1194	796	827	646	479	724
(WY)	1990	1986	1997	1991	1973	1993	1983	1978	1972	1972	1970	1979
MIN	96.1	70.5	88.0	71.1	58.2	60.5	69.2	61.3	67.2	82.2	77.4	113
(WY)	1952	1953	1996	1953	1953	1953	1969	1964	1964	1964	1964	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR	FOR 2001 WATER YEAR	WATER YEARS 1951 - 2001
ANNUAL TOTAL	41009	51111	
ANNUAL MEAN	112	140	272
HIGHEST ANNUAL MEAN			441
LOWEST ANNUAL MEAN			117
HIGHEST DAILY MEAN	183	Jan 13	5710
LOWEST DAILY MEAN	46	May 9	c20
ANNUAL SEVEN-DAY MINIMUM	93	May 3	Mar 24 1984
MAXIMUM PEAK FLOW		689 aMay 26	42
MAXIMUM PEAK STAGE		1440 Jan 4	Mar 2 1953
INSTANTANEOUS LOW FLOW		5.13 Jan 4	9500 Dec 7 1950
ANNUAL RUNOFF (CFSM)	.52	.65	15.00 Dec 7 1950
ANNUAL RUNOFF (INCHES)	7.06	8.80	f2.3 Dec 16 1985
10 PERCENT EXCEEDS	121	267	1.26 17.08
50 PERCENT EXCEEDS	110	111	647 204
90 PERCENT EXCEEDS	103	100	46

a Also May 27, 2001.

b Also July 29, 2001.

c Caused by turbines being shut down for repair at Philpott Dam.

d Also July 17-27, 30, 2001.

f Result of repair at dam but may have been less during periods of estimated record.

